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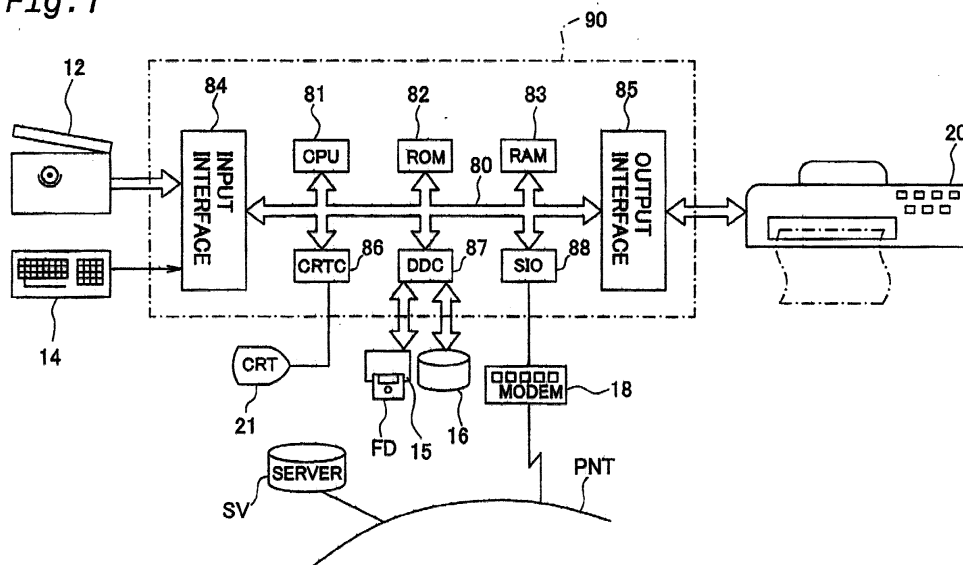
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(54) **Printer, printing method and ink cartridge**

(57) The technique of the present invention utilizes two different inks that are mixed with each other to express an achromatic color, in order to reduce the degree of granularity while decreasing the total quantity of inks. The black ink used in the present invention to create dots of black color is mixing black ink (Bk) that contains magenta and yellow dyes as well as a black dye, such as Food black, and thereby has a less quantity of the black dye. In order to express black color, dots of the mixing black ink (Bk) are mixed with dots of cyan ink (C),

which compensates for a certain hue that is insufficient in a black color expressed by the mixing black ink (Bk). The mixing black ink (Bk) has higher lightness than a conventional real black ink and thereby reduces the degree of granularity in a resulting printed image. This arrangement of the invention enables creation of dots with the mixing black ink (Bk) to start from a lower density area, thereby reducing a total quantity of the respective color inks used for printing, which has a sufficient margin to a predetermined ink duty of paper.

**Fig. 1**





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# EUROPEAN SEARCH REPORT

Application Number  
EP 99 11 6732

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<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons &amp; : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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